

WO 2005/080423

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SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Research
 Organisation
 Grains Research and Development Corporation

<120> Antifungal peptides

<130> 501692

<150> AU 2004900938

<151> 2004-02-24

<160> 62

<170> PatentIn version 3.3

<210> 1

<211> 64

<212> PRT

<213> Galleria mellonella

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Met Lys Phe Thr Gly Ile Phe Phe Ile Ile Met Ala Ile Ile Ala Leu
 1 5 10 15

Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile
 20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala
 35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His
 50 55 60

<210> 2

<211> 64

<212> PRT

<213> Galleria mellonella

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Met Asn Phe Thr Gly Ile Phe Phe Met Ile Met Ala Ile Ile Ala Leu
 1 5 10 15

Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile
 20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala
 35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His
 50 55 60

<210> 3
<211> 68
<212> PRT
<213> Galleria mellonella

<400> 3

Met Arg Leu Ser Ile Ile Leu Val Val Val Met Met Val Met Ala Met
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Phe Val Ser Ser Gly Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala
20 25 30

Ile Lys Lys Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn
35 40 45

Ile Ala Ser Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys
50 55 60

Lys Lys Asn His
65

<210> 4
<211> 39
<212> PRT
<213> Galleria mellonella

<400> 4

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys
1 5 10 15

Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu
20 25 30

His Ile Lys Asn Arg Arg His
35

<210> 5
<211> 33
<212> PRT
<213> Galleria mellonella

<400> 5

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser
1 5 10 15

Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys Lys Lys Asn
20 25 30

His

<210> 6
<211> 342
<212> DNA
<213> *Galleria mellonella*

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ctacgggtaa catctttatt agttatcgta aaataacaga ttgtagaaat gaagtttaca 60
ggaatattct tcataattat ggcgatcatt gccctcttta tagggcctaaa tgaagcggcg 120
cctaaagtca atgttaatgc cattaagaag ggaggaaagg ccataggaaa aggattttaa 180
gtaatcagtg cggcgagtac agcgcgatgac gtctatgaac acattaaaaa cagaaggcac 240
taataaaacc aaaaataatt atttatctta taaggtaatt ttaagacata taatgtatgt 300
tgcaaattat taagtgaat aaaatataaa atattttttg tt 342

<210> 7
<211> 349
<212> DNA
<213> *Galleria mellonella*

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agcggcgcct aaagtcaatg ttaatgccat taagaaggga ggaaaggcca taggaaaagg 180
atttaaagta atcagtgcgg cgagtacagc gcatgacgac tatgaacaca ttaaaaacag 240
aaggcactaa tagaaccaaa aataatcatt tattttataa ggtaatttta agacatataa 300
tgaatgttgc aaattattaa gtggaataaa atataaaata ttttttgtt 349

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<211> 420
<212> DNA
<213> *Galleria mellonella*

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tgagattgtc cataatattg gtcgttgtga tgatggtgat ggctatgttt gtgagcagtg 120
gagatgcggc gcctggaaaa attcctgtga aagcgattaa aaaaggaggg caaattattg 180
gtaaagctct gcgtggaatc aatatagcga gtactgcaca tgacataatt agccagttca 240
aaccgaaaaa gaagaaaaac cattgagtat ttaataaaaa atcgttcaat aatatattta 300
ataataataa taaattttac ttatattact ataataaat taatattttt aattgtgcca 360

ttttagtttt ataaattata ttaagtatta attttataat taataaaaaa gcttaaatat 420

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<212> DNA
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aatgaagcgg cgcctaaagt caatgttaat gccattaaga agggaggaaa ggccatagga 120
aaaggattta aagtaatcag tgcggcgagt acagcgcgcatg acgtctatga acacattaaa 180
aacagaaggc ac 192

<210> 10
<211> 192
<212> DNA
<213> Galleria mellonella

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aatgaagcgg cgcctaaagt caatgttaat gccattaaga agggaggaaa ggccatagga 120
aaaggattta aagtaatcag tgcggcgagt acagcgcgcatg acgtctatga acacattaaa 180
aacagaaggc ac 192

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<211> 204
<212> DNA
<213> Galleria mellonella

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ggagatgcgg cgcctggaaa aattcctgtg aaagcgatta aaaaaggagg gcaaattatt 120
ggtaaagctc tgcgtggaat caatatagcg agtactgcac atgacataat tagccagttc 180
aaaccgaaaa agaagaaaaa ccat 204

<210> 12
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<212> DNA
<213> Galleria mellonella

<400> 12
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atcagtgcgg cgagtacagc gcatgacgtc tatgaacaca ttaaaaacag aaggcac 117

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<210> 13
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 <212> DNA
 <213> Galleria mellonella

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 ataattagcc agttcaaacc gaaaaagaag aaaaaccat 99

<210> 14
 <211> 67
 <212> PRT
 <213> Spodoptera litura

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Met Lys Leu Thr Lys Val Phe Val Ile Leu Ile Val Val Val Ala Leu
 1 5 10 15

Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile
 20 25 30

Lys Lys Ala Gly Ala Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile
 35 40 45

Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys
 50 55 60

Lys Lys His
 65

<210> 15
 <211> 67
 <212> PRT
 <213> Manduca sexta

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Met Lys Leu Thr Ser Leu Phe Ile Phe Val Ile Val Ala Leu Ser Leu
 1 5 10 15

Leu Phe Ser Ser Thr Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala
 20 25 30

Ile Lys Gln Ala Gly Lys Val Ile Gly Lys Gly Leu Arg Ala Ile Asn
 35 40 45

Ile Ala Gly Thr Thr His Asp Val Val Ser Phe Phe Arg Pro Lys Lys
 50 55 60

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Lys Lys His
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<210> 16
<211> 66
<212> PRT
<213> Bombyx mori

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Met Asn Ile Leu Lys Phe Phe Phe Val Phe Ile Val Ala Met Ser Leu
1 5 10 15

Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro Ile Lys Ala Ile
20 25 30

Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg Ala Ile Asn Ile
35 40 45

Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys Pro Lys Lys Arg
50 55 60

Lys His
65

<210> 17
<211> 41
<212> PRT
<213> Heliothis virescens

<400> 17

Gly Lys Ile Pro Ile Gly Ala Ile Lys Lys Ala Gly Lys Ala Ile Gly
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Lys Gly Leu Arg Ala Val Asn Ile Ala Ser Thr Ala His Asp Val Tyr
20 25 30

Thr Phe Phe Lys Pro Lys Lys Arg His
35 40

<210> 18
<211> 66
<212> PRT
<213> Bombyx mori

<400> 18

Met Tyr Phe Leu Lys Tyr Phe Ile Val Val Leu Val Ala Leu Ser Leu
1 5 10 15

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Met Ile Cys Ser Gly Gln Ala Asp Pro Lys Ile Pro Val Lys Ser Leu
20 25 30

Lys Lys Gly Gly Lys Val Ile Ala Lys Gly Phe Lys Val Leu Thr Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Ser His Val Arg Asn Arg Gly Asn
50 55 60

Gln Gly
65

<210> 19
<211> 32
<212> PRT
<213> Galleria mellonella

<400> 19

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys
1 5 10 15

Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu
20 25 30

<210> 20
<211> 28
<212> PRT
<213> Galleria mellonella

<400> 20

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser
1 5 10 15

Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys
20 25

<210> 21
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

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<222> (6)..(6)
<223> N = inosine

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<221> misc_feature
<222> (12)..(12)
<223> N = inosine

<400> 21
aaygtnaayg cnathaaraa rgg

23

<210> 22
<211> 21
<212> DNA
<213> Artificial Sequence

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<223> Oligonucleotide primer

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<223> N = inosine

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<222> (16)..(16)
<223> N = inosine

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<221> misc_feature
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<223> N = A, C, G or T

<400> 22
ytcertanacr gcrtgngcnt g

21

<210> 23
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<222> (6)..(6)
<223> N = inosine

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<222> (18)..(18)
<223> N = inosine

<400> 23
ggnggncara thathggnaa rgc 23

<210> 24
<211> 23
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<222> (18)..(18)
<223> N = inosine

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tgnsndatda trtctgngc ngc 23

<210> 25
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 25
gaggaaaggc cataggaaaa gg 22

<210> 26
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 26
actcgccgca ctgattac 18

<210> 27
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide primer

<400> 27
 ggggggcaga tcattggg 18

<210> 28
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide primer

<400> 28
 ttatgtcatg ggccgtact 19

<210> 29
 <211> 337
 <212> DNA
 <213> Galleria mellonella

<400> 29
 ggtaacatct ttattagtta tcgtaaaata acagattgta gaaatgaagt ttacaggaat 60
 attcttcata attatggcga tcattgccct ctttataggg tcaaatgaag cggcgccctaa 120
 agtcaatgtt aatgccatta agaagggagg aaaggccata ggaaaaggat ttaaagtaat 180
 cagtgcggcg agtacagcgc atgacgtcta tgaacacatt aaaaacagaa ggcactaata 240
 aaaccaaaaa taattattta ttttataagg taattttaag acatataatg tatgttgcaa 300
 attattaagt gaaataaaat ataaaatatt ttttgtt 337

<210> 30
 <211> 32
 <212> PRT
 <213> Galleria mellonella

<400> 30

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys
 1 5 10 15

Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser
 20 25 30

<210> 31
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Oligonucleotide sequence

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<223> N = inosine

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<222> (12)..(12)
<223> N = inosine

<220>
<221> misc_feature
<222> (18)..(18)
<223> N = A, C, G or T

<400> 31
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20

<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

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<223> Oligonucleotide Primer

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<223> N = A, C, G or T

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<222> (12)..(12)
<223> N = inosine

<220>
<221> misc_feature
<222> (18)..(18)
<223> N = A, C, G or T

<400> 32
tanacttcrt gngcdgtnc

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<210> 33
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 33
aggtcttggt gtaattggtg 20

<210> 34
<211> 20
<212> DNA
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<220>
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<400> 34
gcagcaccaa ttacaccaag 20

<210> 35
<211> 20
<212> DNA
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<220>
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<400> 35
taaaaagggt ctaggtgtgc 20

<210> 36
<211> 20
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<400> 36
gcggcgccaa gcacacctag 20

<210> 37
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 37
cttcaatctt agtgaaaact tcgc 24

<210> 38
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 38
ggatagtact tcataattat atac 24

<210> 39
<211> 23
<212> DNA
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<220>
<223> Oligonucleotide Sequence

<400> 39
gttgcaggac ttaataactta gtg 23

<210> 40
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Sequence

<400> 40
gagtatttta ctaataagta tgtgg 25

<210> 41
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 41
ctcgagaaca atgaagtta caggaatatt cttca 35

<210> 42
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 42
tctagattag tgccttctgt ttttaatgtg ttcatagac 39

<210> 43
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 43
cgccagagga cccctaaac 19

<210> 44
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 44
atcgatgcc a gaaccaagag a 21

<210> 45
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 45
tcgaaggaga tgccaccatg aagtttacag gaatattcct ca 42

<210> 46
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 46
ttagtgccctt ctgtttttaa tgtgttcata gac 33

<210> 47
<211> 63
<212> PRT
<213> Galleria mellonella

<400> 47
Met Lys Leu Thr Gly Leu Phe Phe Met Ile Met Ala Met Leu Ala Leu
1 5 10 15

Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Ile Gly Ala
35 40 45

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Ala Gly Thr Ala His Glu Val Tyr Ser His Val Lys Asn Arg His
 50 55 60

<210> 48
 <211> 38
 <212> PRT
 <213> Galleria mellonella

<400> 48

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys
 1 5 10 15

Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser
 20 25 30

His Val Lys Asn Arg His
 35

<210> 49
 <211> 375
 <212> DNA
 <213> Galleria mellonella

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 ttctctttat caaccatgaa gctgaccggt ctatctttca tgatcatggc gatgctcgcc 120
 ctgtttgttg gcgctgggtca agccgaccct aagggtgcca ttggcgccat caagaagggt 180
 ggcaaaatta ttaaaaaagg tcttgggtga attggtgccg ctggtacagc gcatgaagta 240
 tatagccacg tcaagaacag gcattagatt cttgaagaat atatagtata taattatgaa 300
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 atttatactc gtgcc 375

<210> 50
 <211> 192
 <212> DNA
 <213> Galleria mellonella

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 aaaggtcttg gtgtaattgg tgccgctggt acagcgcacg aagtatatag ccacgtcaag 180
 aacaggcatt ag 192

<210> 51
<211> 117
<212> DNA
<213> Galleria mellonella

<400> 51
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attggtgccg ctggtacagc gcatgaagta tatagccacg tcaagaacag gcattag 117

<210> 52
<211> 63
<212> PRT
<213> Galleria mellonella

<400> 52

Met Lys Leu Thr Gly Leu Phe Leu Met Ile Met Ala Val Leu Ala Leu
1 5 10 15

Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Leu Gly Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Asn His Val Arg Asn Arg Gln
50 55 60

<210> 53
<211> 38
<212> PRT
<213> Galleria mellonella

<400> 53

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys
1 5 10 15

Gly Leu Gly Val Leu Gly Ala Ala Gly Thr Ala His Glu Val Tyr Asn
20 25 30

His Val Arg Asn Arg Gln
35

<210> 54
<211> 462
<212> DNA
<213> Galleria mellonella

<400> 54
acttcattgt gtacagttgc aggacttaat acttagtgaa ctacttactc ctogttacca 60

accatgaagc tgaccggtct atttctcatg atcatggcgg tgctcgcgct gtttgttggc 120
 gctgggtcaag ccgaccctaa ggtgccatt ggcgctatca agaagggcgg caaaattatt 180
 aaaaagggc taggtgtgct tggcgccgcg ggcacagcgc acgaagtgtg caaccacggt 240
 aggaacaggc agtaacgtca tgcgtgattg ttgtacatac agtacttaca atacgatttg 300
 tcttggctgt gatatatctt tagataaatt aatttataat accacatact tattagtaaa 360
 atactcaa atattgatta tagatacatt aataaatatt aattattaca atattttgtt 420
 tttatgtaca atgcgaatag attctaccct ctgcctcgtg cc 462

<210> 55
 <211> 192
 <212> DNA
 <213> Galleria mellonella

<400> 55
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 ggtcaagccg accctaaggt gccattggc gctatcaaga agggcggcaa aattattaaa 120
 aagggctctag gtgtgcttgg cgccgcgggc acagcgcacg aagtgtacaa ccacgtagg 180
 aacaggcagt aa 192

<210> 56
 <211> 117
 <212> DNA
 <213> Galleria mellonella

<400> 56
 aaggtgccca ttggcgcctat caagaagggc ggcaaaatta ttaaaaaggg tctaggtgtg 60
 cttggcgccg cgggcacagc gcacgaagtg tacaaccacg ttaggaacag gcagtaa 117

<210> 57
 <211> 67
 <212> PRT
 <213> Spodoptera exigua

<400> 57

Met Lys Leu Thr Lys Val Phe Val Ile Val Ile Val Val Val Ala Leu
 1 5 10 15

Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile
 20 25 30

Lys Lys Ala Gly Thr Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile
 35 40 45

Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys
50 55 60

Lys Lys His
65

<210> 58
<211> 54
<212> PRT
<213> Hyblaea puera

<400> 58

Ala Met Ser Leu Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro
1 5 10 15

Ile Lys Ala Ile Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg
20 25 30

Ala Ile Asn Ile Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys
35 40 45

Pro Lys Lys Arg Lys His
50

<210> 59
<211> 41
<212> PRT
<213> Caligo illioneus

<400> 59

Gly Lys Ile Pro Ile Asn Ala Ile Arg Lys Gly Ala Lys Ala Val Gly
1 5 10 15

His Gly Leu Arg Ala Leu Asn Ile Ala Ser Thr Ala His Asp Ile Ala
20 25 30

Ser Ala Phe His Arg Lys Arg Lys His
35 40

<210> 60
<211> 37
<212> PRT
<213> Caligo illioneus

<400> 60

Arg Lys Ile Pro Val Glu Ala Ile Lys Lys Gly Ala Ser Arg Ala Trp
1 5 10 15

Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala Ser Ile Phe
20 25 30

Asn Arg Lys Arg Glu.
35

<210> 61
<211> 40
<212> PRT
<213> Caligo illioneus

<400> 61

Gly Lys Ile Pro Val Glu Ala Leu Lys Lys Gly Ala Lys Val Ala Gly
1 5 10 15

Arg Ala Trp Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala
20 25 30

His Leu Phe Asp Arg Lys Arg Asn
35 40

<210> 62
<211> 43
<212> PRT
<213> Artificial Sequence

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<223> Consensus sequence for Galleria peptides

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<222> (1)..(1)
<223> Xaa = GLY, PRO, ALA or ABSENT, or more preferably GLY or ABSENT

<220>
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<222> (3)..(3)
<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or VAL

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<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa = PRO, GLY, ASN, GLN or HIS, or more preferably PRO or ASN

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<222> (5)..(5)
<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or VAL

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<222> (6)..(6)
<223> Xaa = LYS, ARG, GLY, PRO, ALA, ASN, GLN or HIS, or more preferably LYS, GLY or ASN

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<222> (13)..(13)
<223> Xaa = GLN, ASN, HIS, LYS or ARG, or more preferably GLN or LYS

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<222> (16)..(16)
<223> Xaa = GLY, PRO, ALA, LYS or ARG, or more preferably GLY or LYS

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<223> Xaa = VAL, LEU, ILE, GLY, PRO or ALA, or more preferably ALA or GLY

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<223> Xaa = GLY, PRO, ALA, VAL, ILE, LEU, MET or PHE, or more preferably GLY or VAL

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<223> Xaa = ASN, GLN, HIS, GLY, PRO, ALA, SER or THR, or more preferably ASN, GLY or SER

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<223> Xaa = SER, THR, ASN, GLN, HIS, GLU or ASP, or more preferably SER, ASN or GLU

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Lys Xaa Xaa Xaa Xaa Xaa Xaa Ala Xaa Thr Ala His Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40